IL1630000000--St. Clair County
H.H. Hall Construction
ILD982073603

5E0301-A0102

Not RCRA

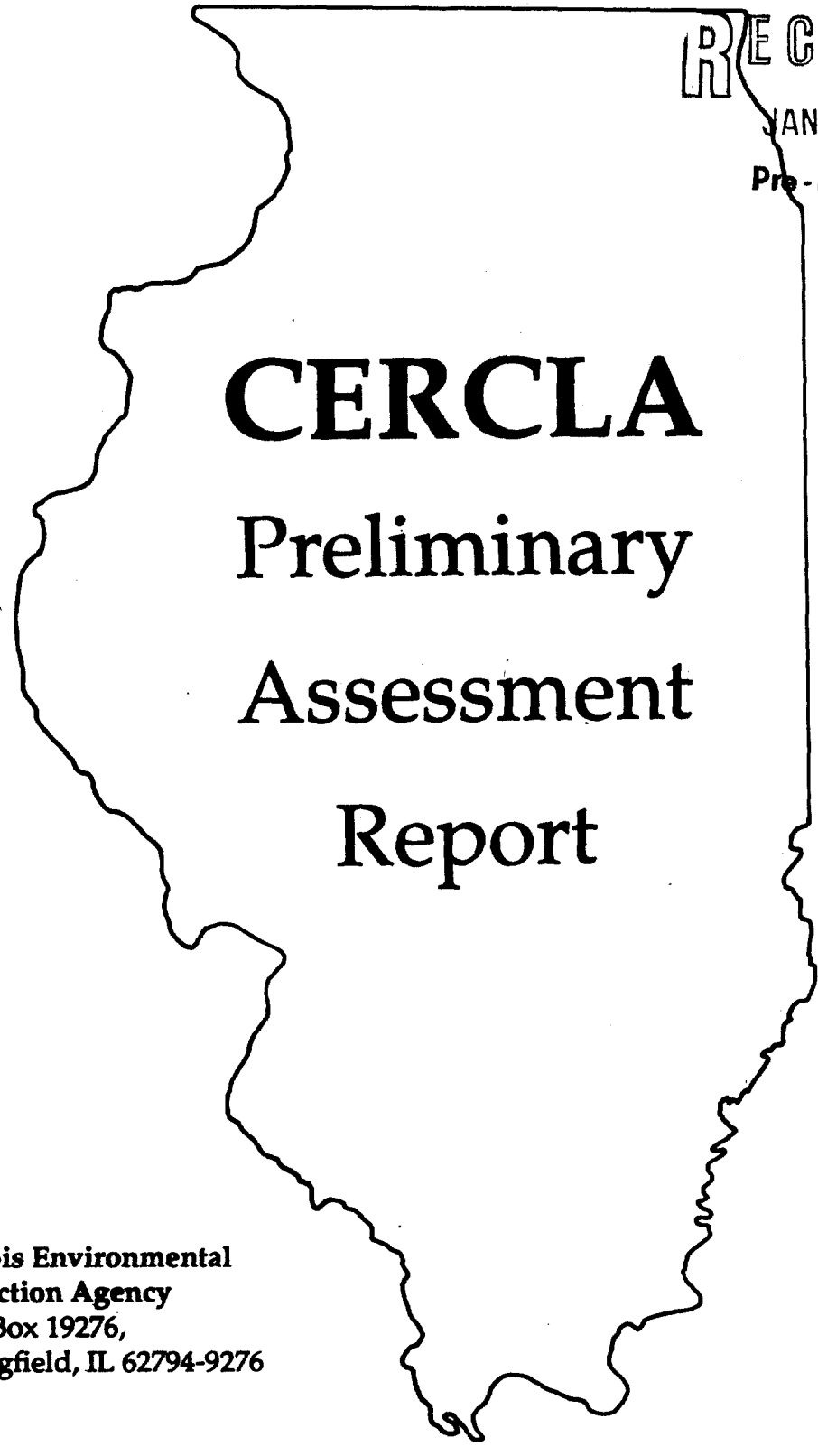
CBI

1/2089

147791

CERCLA

Preliminary Assessment Report



Illinois Environmental Protection Agency
P.O. Box 19276,
Springfield, IL 62794-9276

L1630000000 -- St. Clair County
H.H. Hall Construction
ILD982073603

November 30, 1988

EXECUTIVE SUMMARY

H.H. Hall Construction Company Site N (HHHC) is one of eighteen suspected hazardous waste sites in the St. Clair County area investigated by Ecology and Environment, Inc. (E & E) under contract by the Illinois EPA. The purpose of the Dead Creek project was to gather sufficient data to apply the HRS model and characterize site conditions.

The HHHC site is an operations and equipment storage facility owned and operated by H.H. Hall Construction Company of East St. Louis. The entire facility covers approximately 23 acres and is located at 3525 Falling Springs Road in the town of Cahokia. The site is bordered on the north by residential property along Judith Lane; on the west by Dead Creek; on the south by residential property along Edwards Street; and on the east by a residential area along Falling Springs Road. Historical area photographs indicate that land excavations were first evident in the early 1950's. According to E & E, the excavation observed in the aerial photograph is currently present as a borrow pit located in the southwest corner of the property. Company officials claim that concrete rubble and other demolition construction debris are the only wastes disposed of in the pit by Hall Construction.

The pit is situated in an unconsolidated alluvium and glacial outwash environment. This section is underlain by Mississippian Age bedrock and older bedrock formations. The alluvium and glacial outwash deposit consists of two layers, the Cahokia Alluvium and the Mackinaw Member of the Henry Formation. These two formations are hydraulically interconnected and have a composite thickness ranging from 70 to 120 feet thick. Sand and gravel deposits within this section supply water to several local industries and to private residents in the area, who are unable to obtain water from public supplies due to distribution restrictions. The primary source of public drinking water is supplied from the Mississippi River at a water intake three miles upstream from the site. The closest downstream intake is 28 miles south of the site and supplies drinking water to the Village of Crystal, Missouri.

A soil gas survey of the site conducted by E & E revealed that five of the eight locations tested had concentrations of volatile organic soil gases substantially above background concentrations. Two of these locations had concentrations greater than 1000 mg/L. On December 15, 1988, E & E drilled two subsurface soil borings (N-1, N-2) to a depth of 20 and 40 feet deep. Analysis of soil samples taken from the two borings revealed the presence of organic contaminants in both samples. The contaminants detected consisted of phenanthrene, fluoranthene, pyrene, and benzo(a)pyrene. The highest concentration detected was 0.68 mg/kg of fluoranthene. A total organic concentration of 3.6 mg/kg was detected in sample N1-05. The sample was composited from the surface to a depth of 10 feet.

On August 13, 1988, IEPA personnel conducted an off-site reconnaissance inspection of the HHHC site. The site appeared to be abandoned at the time of the inspection and was completely surrounded by a secure metal fence. The disposal pit is located at the southwest corner of the property and was not easily visible due to overgrown vegetation and access restrictions. The property is bordered by residential areas on the north, south and east, and by Dead Creek on the west. The Mississippi River is located about 1 1/4 miles west of the site, and the remaining area is commercial.

H.H. Hall Construction Site has been assigned a medium priority for a site inspection. This decision is based on the adverse impact the site potentially poses to the surrounding population and environment.

JWM:tk:4/35/16-2

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 982073603

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
H.H. HALL Construction Company (N)	3525 FALLING SPRINGS Road				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
CAHOKIA	IL	62206-1019	ST. CLAIR	163	22
09 COORDINATES LATITUDE	LONGITUDE				
383500.0	0901035.0				

10 DIRECTIONS TO SITE (Starting from nearest public road)
TAKE I55 SOUTH TO ROUTE 3 SOUTH (CAHOKIA-Sauget exit). TAKE RT 3 SOUTH TO JEROME ST. TAKE A LEFT AT JEROME until you hit FALLING SPRINGS Road. Go Right to 3525 FALLING SPRINGS Road.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
H.H. HALL CONSTRUCTION Co.	211 SOUTH 15TH STREET			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
EAST ST. LOUIS	IL	62207	618 274-2500	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
SAME AS ABOVE				
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
"	"	"	( ) "	

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: / / (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 12,15,86 (MONTH DAY YEAR) ☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☒ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: E & E (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1950 (BEGINNING YEAR) | 51 UNKNOWN (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
ORGANICS (PERSISTANT & TOXIC)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
GROUNDWATER (POPULATION, ENVIRONMENT)
SURFACE WATER (ENVIRONMENT)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
HOWARD H. HALL	Property Owner of Site		618 274-2500
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
JOHN MORGAN	IEPA	RPMS	217 782-6760	10 17 88 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	9820736O3

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID
B POWDER, FINES
C SLUDGE
D OTHER (Specify)
E SLURRY
(F) LIQUID
G GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

TONS
CUBIC YARDS UNKNOWN
NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

(A) TOXIC
B CORROSIVE
C RADIOACTIVE
(D) PERSISTENT
E SOLUBLE
F INFECTIOUS
G FLAMMABLE
H IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			DETECTION IN
PSD	PESTICIDES	UNKNOWN		SUBSURFACE SOIL
(OCC)	OTHER ORGANIC CHEMICALS			SAMPLES. (BORINGS N1, N2)
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	4-METHYL-2-PENTANONE	108-10-1	DISPOSAL PIT	.004 (J)	mg/Kg
	PHENANTHRENE	85-01-8		.43	mg/Kg
	FLUORANTHENE	20644-0		.68	mg/Kg
	PYRENE	129-00-0		.55	mg/Kg
	BENZO(a)ANTHRACENE	56-55-3		.26 (J)	mg/Kg
	CHRYSENE	218-01-9		.28 (J)	mg/Kg
	BENZO(b) FLUORANTHENE	205-99-2		.29 (J)	mg/Kg
	BENZO(a) PYRENE	50-32-8		.21 (J)	mg/Kg
* OCC	PCBs	1336-36-3	UNKNOWN	2.8	ppm

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS	UNKNOWN		FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

ALL INFORMATION TAKEN FROM THE DEAD CREEK (SAUGET SITES) PROJECT REPORT. ECOLOGY AND ENVIRONMENT CONDUCTED THE SITE INVESTIGATIONS UNDER CONTRACT BY IEPA, DIVISION OF LAND POLLUTION, REMEDIAL PROJECT MANAGEMENT SECTION.

(J) - ESTIMATED VALUE, RESULTS GREATER THAN ZERO, BUT BELOW DETECTION LIMIT.
* - OFF-SITE SAMPLE COLLECTED IN ADJACENT CREEK BY IEPA 9-25-80.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 982073603

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION | 02 [X] OBSERVED (DATE 12/15/86) | POTENTIAL | ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 100 - 1000 | 04 NARRATIVE DESCRIPTION
ON DECEMBER 15, 1986, EEE DRILLED 2 SUBSURFACE BORINGS (N1, N2) TO A DEPTH RANGING FROM 20 TO 40 FEET DEEP. GROUNDWATER WAS ENCOUNTED AT 1 FOOT IN N1 AND 12' IN N2. RESULTS OF AN ANALYSIS FROM SOIL SAMPLES TAKEN FROM BOTH BORINGS INDICATE ORGANIC CONTAMINATION WAS DETECTED IN BOTH SAMPLES COLLECTED.

01 [X] B. SURFACE WATER CONTAMINATION | 02 [X] OBSERVED (DATE 9/25/80) | [ ] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
RESULTS FROM SAMPLES COLLECTED BY IEPA 9-25-88, INDICATE PCB CONTAMINATION HAS OCCURRED IN DEAD CREEK, ADJACENT TO H. H. HALL CONST. THE LEVEL OF CONCENTRATION (2.8 ppm) DETECTED WAS GREATER THAN 5 TIMES THE BACKGROUND SAMPLE (.12 ppm). DRAINAGE FROM DEAD CREEK IS TOWARD OLD PRAIRIE DUPONT CREEK WHICH EVENTUALLY DISCHARGES INTO THE MISSISSIPPI RIVER. (CLOSEST INTAKE 28 mi)

01 [ ] C. CONTAMINATION OF AIR | 02 [ ] OBSERVED (DATE _____) | [ ] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
UNKNOWN

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS | 02 [ ] OBSERVED (DATE _____) | [ ] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
UNKNOWN

01 [X] E. DIRECT CONTACT | 02 [ ] OBSERVED (DATE _____) | [X] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
ALTHOUGH THE DISPOSAL PIT HAS NOT BEEN PROPERLY CLOSED AND COVERED, THE PROPERTY IS SURROUNDED BY A SECURE METAL FENCE.

01 [X] F. CONTAMINATION OF SOIL | 02 [X] OBSERVED (DATE 12/15/86) | POTENTIAL | ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) | 04 NARRATIVE DESCRIPTION
RESULTS FROM SOIL SAMPLES COLLECTED 12/15/86 FROM A SUBSURFACE INVESTIGATION CONDUCTED BY EEE, INDICATE ORGANIC CONTAMINATION IS PRESENT IN BOTH BORINGS DRILLED (N1, N2).

01 [X] G. DRINKING WATER CONTAMINATION | 02 [ ] OBSERVED (DATE _____) | [X] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
BECAUSE SUBSURFACE SOIL CONTAMINATION AT THE SITE WAS DETECTED WITHIN THE ZONE OF SATURATION, LOCAL PRIVATE WELL OWNERS WHO ARE UNABLE TO OBTAIN WATER FROM PUBLIC SUPPLIES MAY POTENTIALLY BE AT RISK SHOULD CONTAMINANTS MOVE OFF-SITE VIA GROUNDWATER.

01 [ ] H. WORKER EXPOSURE/INJURY | 02 [ ] OBSERVED (DATE _____) | [ ] POTENTIAL | [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
UNKNOWN

01 [ ] I. POPULATION EXPOSURE/INJURY | 02 [ ] OBSERVED (DATE _____) | [ ] POTENTIAL | [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION
UNKNOWN

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 982073603

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

UNKNOWN

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

THE FDA COMPLETED AN INVESTIGATION MARCH of 1983 relative to CONTAMINATION IN MISSISSIPPI RIVER FISH IN THE ST. LOUIS AREA. THE REPORT INDICATED THE PRESENCE OF ORGANIC CONTAMINATION IN FISH UP TO 150 Miles SOUTH OF SAUGET, AND CONCLUDED that pollution sources IN SAUGET were directly Responsible.

01 ☒ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE ABOVE IN SECTION K.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills runoff standing liquids leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

THE DISPOSAL AREA AT H.H. HALL CONSTRUCTION SITE CONSIST OF AN UNLINED DISPOSAL PIT. CONTAMINATION WAS detected IN both subsurface borings.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

UNKNOWN

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

UNKNOWN

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

UNKNOWN

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

UNKNOWN

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

AN OFF-SITE RECONNAISSANCE INSPECTION WAS CONDUCTED AT H.H. HALL CONSTRUCTION SITE August 30, 1988. SEE EXECUTIVE SUMMARY FOR DETAILS.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

ALL INFORMATION WAS TAKEN FROM THE DEAD CREEK (SAUGET SITES) Project REPORT. Ecology & ENVIRONMENT CONDUCTED THE SITE INVESTIGATION, AND prepared THE REPORT. (FOR ADDITIONAL INFORMATION CONTACT THE IEPA, DIVISION OF LAND POLLUTION, REMEDIAL Project MANAGEMENT SECTION.

SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

The item(s) listed below are not available in SDMS. In order to view original document or document pages, contact the Superfund Records Center.

SITE NAME	**Sauget Area 1**		
DOC ID #	**147791**		
DESCRIPTION OF ITEM(S)	**USGS TOPOGRAPHIC MAPS**		
REASON WHY UNSCANNABLE	**_X_ OVERSIZED**	**OR**	**___ FORMAT**
DATE OF ITEM(S)	**1954**		
NO. OF ITEMS	**1**		
PHASE	**SAS**		
PRP	**Remediation - Sauget Area 1**		
PHASE (AR DOCUMENTS ONLY)	**___ Remedial ___ Removal ___ Deletion Docket ___ AR ___ Original ____ Update # ____ Volume ____ of ____**		
O.U.			
LOCATION	**Box # _____ Folder # _____ Subsection _____**		
COMMENT(S)			
Sites include Granite City, Monks Mound, Cahokia, French Village			

SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

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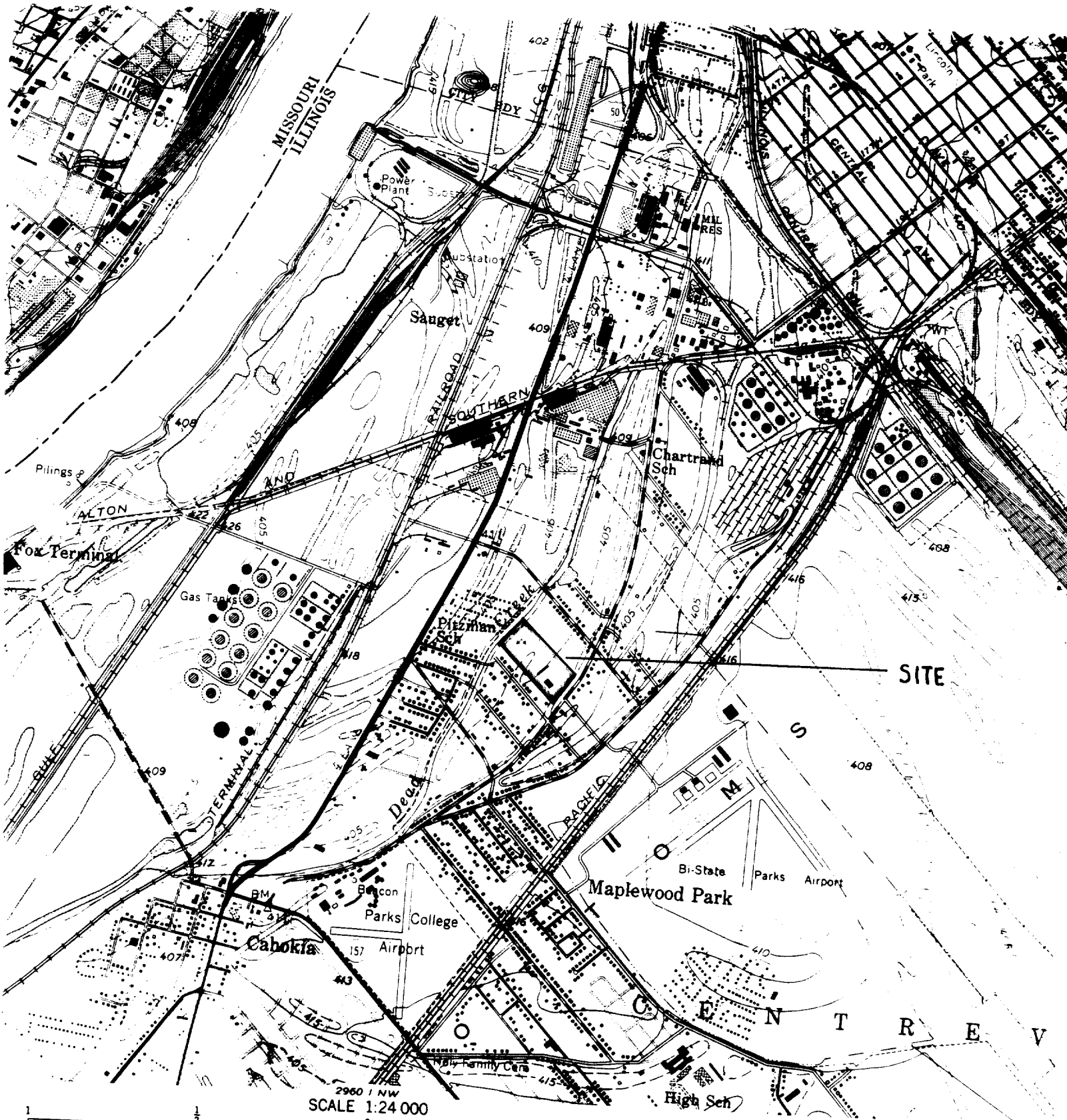
PRP	**Remediation - Sauget Area 1**		
PHASE (AR DOCUMENTS ONLY)	**___ Remedial ___ Removal ___ Deletion Docket ___ AR** **___ Original ____ Update # ___ Volume ____ of ___**		
O.U.			
LOCATION	**Box # ____ Folder # ____ Subsection _____**		
COMMENT(S)			
Sites include Webster Groves, Cahokia, Oakville, Columbia			



CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
STATE GEOLOGICAL SURVEY, URBANA, ILLINOIS 61801,
AND BY THE DIVISION OF RESEARCH AND TECHNICAL INFORMATION
MISSOURI DEPARTMENT OF NATURAL RESOURCES, ROLLA, MISSOURI 65401
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

Revisions shown in purple compiled by the Geolo
Survey from aerial photographs taken 1968 and
This information not field checked

Purple tint and

SDMS US EPA REGION V

COLOR-RESOLUTION - 2

IMAGERY INSERT FORM

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SITE NAME	Sauget Area 1
DOC ID #	147791
DESCRIPTION OF ITEM(S)	Photos
PRP	Remediation - Sauget Area 1
DOCUMENT VARIATION	_X_ COLOR **OR** ___ RESOLUTION
DATE OF ITEM(S)	8/31/88
NO. OF ITEMS	2
PHASE	SAS - Site Assessment
OPERABLE UNITS	
LOCATION	Box #__ Folder #____ Subsection _____
PHASE (AR DOCUMENTS ONLY)	___ Remedial ___ Removal ___ Deletion Docket ___Original ___ Update # ___ Volume ___ of ___

COMMENT(S)

Photo #1 and Photo #4

DATE: 8/31/88

TIME: 9:00 AM

Photograph by:

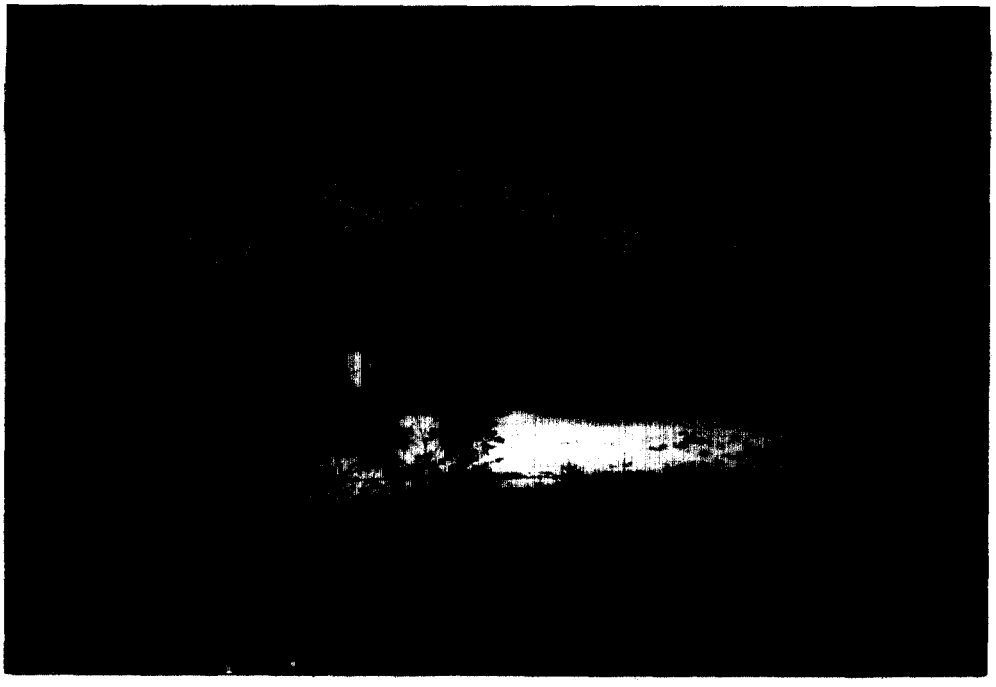
JOHN MORGAN

Location:

H.H. HALL CONSTRUCTION

Comments: Picture taken toward WEST

PHOTO #3



DATE: 8/31/88

TIME: 9:05 AM

Photograph by:

JOHN MORGAN

Location: H.H. HALL CONSTRUCTION

Comments: Picture taken toward WEST:

PHOTO #2

SDMS US EPA REGION V

COLOR-RESOLUTION - 2

IMAGERY INSERT FORM

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SITE NAME	Sauget Area 1
DOC ID #	147791
DESCRIPTION OF ITEM(S)	Photos
PRP	Remediation - Sauget Area 1
DOCUMENT VARIATION	_X_ COLOR **OR** ___ RESOLUTION
DATE OF ITEM(S)	8/31/88
NO. OF ITEMS	2
PHASE	SAS - Site Assessment
OPERABLE UNITS	
LOCATION	Box #__ Folder #____ Subsection _____
PHASE (AR DOCUMENTS ONLY)	___ Remedial ___ Removal ___ Deletion Docket ____Original ___ Update # ___ Volume ___ of ___

COMMENT(S)

Photo #5 and Photo #6

DATE: 8/31/88

TIME: 9:15 AM

Photograph by:

JOHN MORGAN

Location:

H. H. HALL CONST. (DEAD CREEK)

Comments: Picture taken toward NORTH

PHOTO #5

DATE: 8/31/88

TIME: 9:15 AM

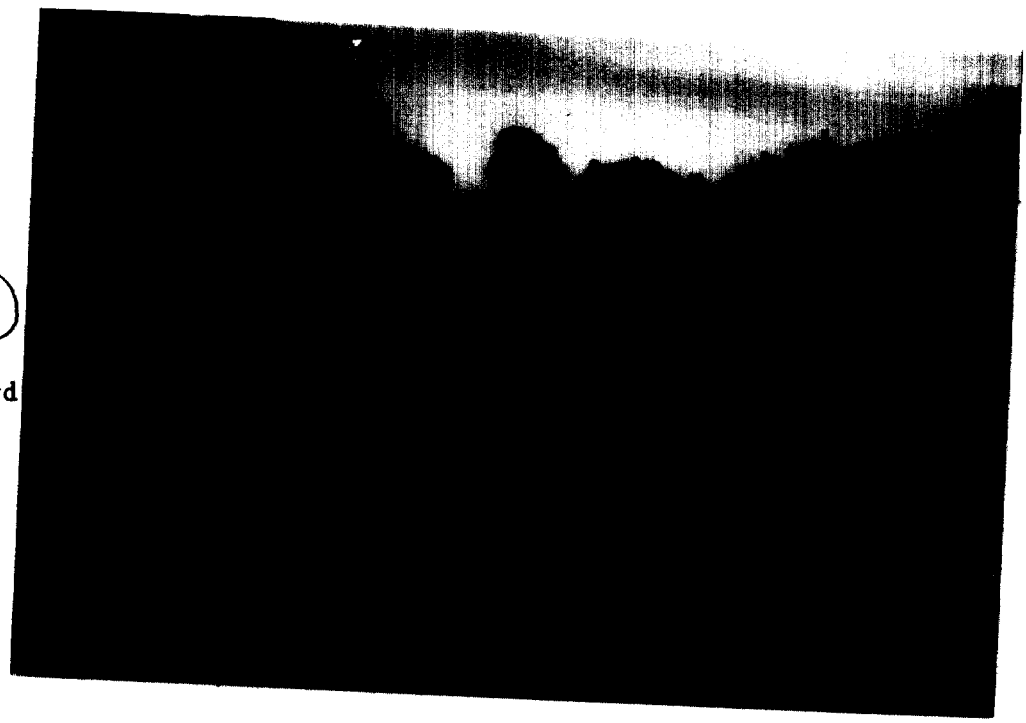
Photograph by:

JOHN MORGAN

Location: H. H. HALL CONST. (DEAD CREEK)

Comments: Picture taken toward SOUTH:

Photo #6



SDMS US EPA REGION V

COLOR-RESOLUTION - 2

IMAGERY INSERT FORM

The following page(s) of this document include color or resolution variations. Unless otherwise noted, these pages are available in monochrome. The original document is available for viewing at the Superfund Records Center.

SITE NAME	Sauget Area 1
DOC ID #	147791
DESCRIPTION OF ITEM(S)	Photos
PRP	Remediation - Sauget Area 1
DOCUMENT VARIATION	_X_ COLOR **OR** ___ RESOLUTION
DATE OF ITEM(S)	8/31/88
NO. OF ITEMS	2
PHASE	SAS - Site Assessment
OPERABLE UNITS	
LOCATION	Box #__ Folder #____ Subsection _____
PHASE (AR DOCUMENTS ONLY)	___ Remedial ___ Removal ___ Deletion Docket ___Original ___ Update # ___ Volume ___ of ___
COMMENT(S)	
Photo #1 and Photo #4	

DATE: 8/31/88

TIME: 8:45 AM

Photograph by:

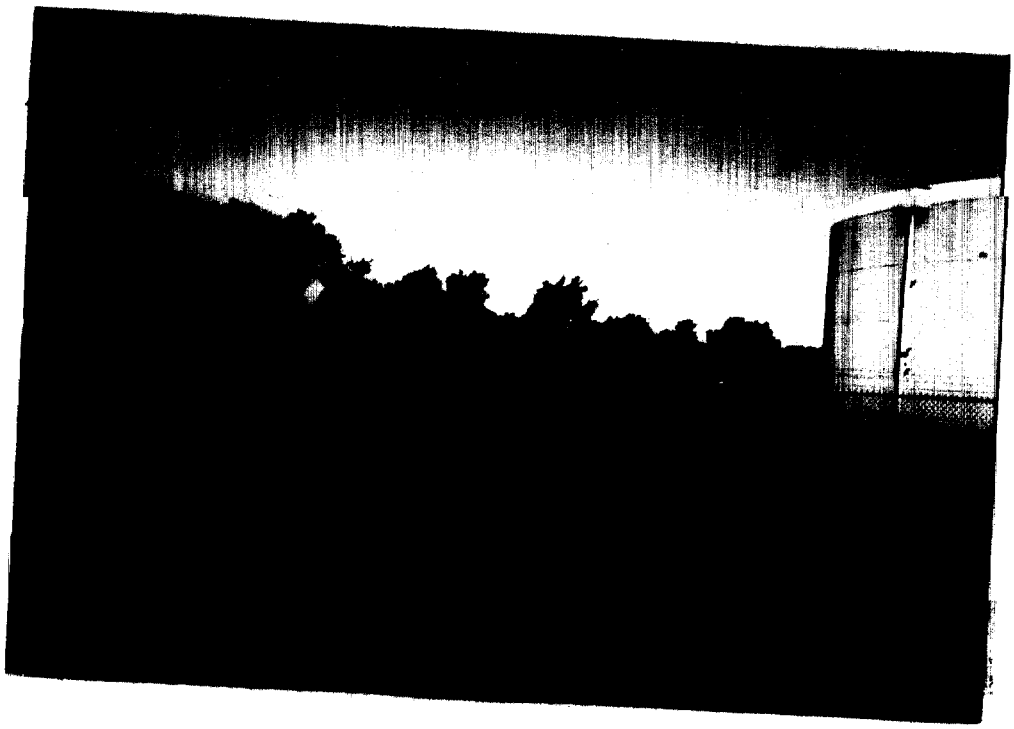
JOHN MORGAN

Location:

H. H. HALL CONSTRUCTION

Comments: Picture taken toward WEST

PHOTO #1



DATE: 8/31/88

TIME: 9:10 AM

Photograph by:

JOHN MORGAN

Location: H.H. HALL CONSTRUCTION

Comments: Picture taken toward NORTH

PHOTO #4

Supporting Documentation

SUPPORTING DOCUMENT REFERENCE SHEET

DOCUMENT A	Analytical lab results from subsurface soil borings.
DOCUMENT B	Analytical lab results from surface water and sediment samples collected from Dead Creek adjacient to the site.
DOCUMENT C	Subsurface soil boring logs (N1, N2), soil description summary, and soil boring location map.

Source: IEPA, Division of Land Pollution Files, Superfund, E&E's Report on the Dead Creek, Sauget Sites.

DOCUMENT A

Table 4-18

SUMMARY OF SUBSURFACE SOIL SAMPLING RESULTS FOR SITE N

Chemical Name	Number of Times Detected[a]	Highest Concentration Detected (mg/kg)	Sample Containing Highest Concentration
Volatile Organics			
4-methyl-2-pentanone	1	0.004J	N1-05
Semivolatile Organics			
phenanthrene	2	0.43	N1-05
fluoranthene	2	0.68	N1-05
pyrene	2	0.55	N1-05
benzo(a)anthracene	1	0.26J	N1-05
chrysene	1	0.28J	N1-05
benzo(b)fluoranthene	2	0.29J	N1-05
benzo(a)pyrene	1	0.21J	N1-05
Pesticides/PCBs			
None detected.			

[a] A total of 2 subsurface soil samples were collected from Site N. The numbers listed represent the number of samples, of the total of 2, in which each compound was detected.

J Estimated value. Result is greater than zero, but less than specified detection limit.

Source: Ecology and Environment, Inc. 1988.

Subsurface Soil Inorganics

	SITE	SITE J	SITE J	SITE K	SITE K	SITE K	BLANK	SITE L	SITE L	SITE L	SITE L	SITE L	SITE N	SITE N	BLANK	SITE P
	SAMPLE NUMBER	DC-J2-12	DC-J3-13	DC-K1-08	DC-K2-25	DC-K3-32	DC-LB-01 +	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10 §	DC-N1-05	DC-N2-06	DC-NB-07 +	DC-P1-53
	SAMPLE DEPTH	15'-25'	0-10'	0-10'	0-10'	10'-20'		5'-10'	5'-15'	5'-15'	10'-20'	10'-20'	0-10'	5'-15'		0-10'
	DATE SAMPLED	12-17-86	12-17-86	12-16-87	1-12-87	1-22-87	12-12-86	12-12-86	12-12-86	12-12-86	12-17-86	12-17-86	12-15-86	12-15-86	12-16-86	2-11-87
1	Aluminum	5026	2522	4788	9073	10076	9397	10697	5205	7380	1120	1378	4763	1924	9385	5013
2	Antimony								32							
3	Arsenic	2 §	6 §	9 §	8 R	9 R	6 §	5 §		172	55 §	68 §	3 §	2 §	6 §	
4	Barium	106	44	112	202	192	410	197	192	192	114	142	130	46	358	126
5	Beryllium															
6	Boron															
7	Cadmium		4	2	1	4			6						2	4
8	Chromium, trivalent	7	55	351	22	15		16	15	10		3	8	5	13	16
9	Cobalt	4	5	11				6	9	9			4	3	7	
10	Copper	6	83	44	39	129		12	105	141	82	101	10	5	33	50
11	Iron	7320	5489	17765	22439	20000	13846	16053	5564	11899	1500	1446	820	6253	16026	12750
12	Lead	5 §	10 §	107 §	132 R	238 R	43 §	9 §	106	41	5 §	5 §	24	34 §	78 §	
13	Manganese	113	827	499	388	606	345	255	44	149	10	10	164	82	429	291 §
14	Mercury			2.2	0.4	0.2				0.1				9		3.9
15	Nickel	8	72	20	20	21	14	21	408	2392	83	93	11		18	25 §
16	Selenium															
17	Silver															
18	Thallium															
19	Tin					13										
20	Vanadium			16	29	27	22	25	10	19					21	19
21	Zinc	24	70	235	245	503	178	59	144	166	11	10	42	65	182	463 §
22	Cyanide			9												

Subsurface Soils Semivolatiles

	SITE	SITE N	SITE N	BLANK	SITE P	SITE P	SITE P	SITE P	SITE P	SITE O	SITE O	SITE O	SITE O	SITE O	SITE O	BLANK
	SAMPLE NUMBER	SC-N1-05	SC-N2-06	SC-NB-07 +	SC-P1-53	SC-P2-54	SC-P5-55	SC-P5-56 +	SC-01-59	SC-02-60	SC-03-61	SC-04-62	SC-05-63	SC-05-64 +	SC-08-65 +
	SAMPLE DEPTH	0-10'	5'-15'		0-10'	25'-35'	10'-25	10'-25'	15'-25'	20'-30'	10'-20'	0-10'	8.5'-20'	8.5'-20'	
	DATE SAMPLED	12-15-86	12-15-86	12-16-86	2-11-87	2-11-87	2-12-87	2-12-87	2-16-87	2-17-87	2-17-87	2-17-87	2-17-87	2-17-87	2-18-87
1	Diethyl Phthalate														
2	Acenaphtylene														
3	3-Nitroaniline														
4	Acenaphthene														
5	2,4-Dinitrophenol														
6	4-Nitrophenol														
7	Dibenzofuran														
8	2,4-Dinitrotoluene														
9	2,6-Dinitrotoluene														
10	Diethylphthalate														
11	4-Chlorophenyl-Phenylether														
12	Fluorene														
13	4-Nitroaniline														
14	4,6-Dinitro-2-methylphenol											50000 J			
15	N-Nitrosodiphenylamine														
16	4-Bromophenyl-phenylether														
17	Hexachlorobenzene														
18	Pentachlorophenol										22619	474359 J			
19	Phenanthrene	434	203 J									217949	965 J		
20	Anthracene										5357				
21	Di-n-butyl phthalate				16250 J	155 J	63 J	325 J	5287				3780 J		2785 J
22	Fluoranthene	686	253 J									43590 J			
23	Pyrene	553	215 J									282051			
24	Butyl Benzyl phthalate														
25	3,3'-Dichlorobenzidine														
26	Benzo(a)Anthracene	263 J										121795			
27	bis(2-ethylhexyl) phthalate	934	1266					225 J	1379 BJ		1905 BJ			2439 JB	
28	Chrysene	276 J										282051		1991 J	
29	Di-n-octyl phthalate														
30	Benzo(b)Fluoranthene	289 J	152 J									79487 J			
31	Benzo(k)Fluoranthene														
32	Benzo(a)Pyrene	211 J										66667 J			
33	Indeno(1,2,3-cd)Pyrene														
34	Benzo(g,h,i)Perylene											52564 J			
35	Dibenz(a,h)Anthracene														

Subsurface Soils Semivolatiles

	SITE	SITE N	SITE N	BLANK	SITE P	SITE P	SITE P	SITE P	SITE Q	SITE Q	SITE Q	SITE Q	SITE Q	SITE Q	BLANK
	SAMPLE NUMBER	DC-N1-05	DC-N2-06	DC-N0-07 *	DC-P1-53	DC-P2-54	DC-P5-55	DC-P5-56 *	DC-Q1-59	DC-Q2-60	DC-Q3-61	DC-Q4-62	DC-Q5-63	DC-Q5-64 *	DC-Q8-65 *
	SAMPLE DEPTH	0-10'	5'-15'		0-10'	25'-35'	10'-25'	10'-25'	15'-25'	20'-30'	10'-20'	0-10'	8.5'-20'	8.5'-20'	
	DATE SAMPLED	12-15-86	12-15-86	12-16-86	2-11-87	2-11-87	2-12-87	2-12-87	2-16-87	2-17-87	2-17-87	2-17-87	2-17-87	2-17-87	2-18-87
1	Diethyl Phthalate														
2	Acenaphtylene														
3	3-Nitroaniline														
4	Acenaphthene														
5	2,4-Dinitrophenol														
6	4-Nitrophenol														
7	Dibenzofuran														
8	2,4-Dinitrotoluene														
9	2,6-Dinitrotoluene														
10	Diethylphthalate														
11	4-Chlorophenyl-Phenylether														
12	Fluorene														
13	4-Nitroaniline														
14	4,6-Dinitro-2-methylphenol											50000 J			
15	N-Nitrosodiphenylamine														
16	4-Bromophenyl-phenylether														
17	Hexachlorobenzene														
18	Pentachlorophenol										22619	474359 J			
19	Phenanthrene	436	203 J									217949	963 J		
20	Anthracene										5357				
21	Di-n-butyl phthalate				16250 J	155 J	63 J	325 J	5287				3780 J		2785 J
22	Fluoranthene	686	293 J									43590 J			
23	Pyrene	553	215 J									282051			
24	Butyl Benzyl phthalate														
25	3,3'-Dichlorobenzidine														
26	Benzo(a)Anthracene	263 J										121795			
27	bis(2-ethylhexyl) phthalate	934	1266					225 J	1379 BJ		1905 BJ			2439 JB	
28	Chrysene	776 J										282051		1951 J	
29	Di-n-octyl phthalate														
30	Benzo(b)Fluoranthene	289 J	152 J									79487 J			
31	Benzo(k)Fluoranthene														
32	Benzo(a)Pyrene	211 J										66667 J			
33	Indeno(1,2,3-cd)Pyrene														
34	Benzo(g,h,i)Perylene											52564 J			
35	Dibenz(a,h)Anthracene														

Explanation For Analytical Data Summary Tables

All ground water results in ug/l.
All soil/sediment organic results in ug/kg
All soil/ sediment inorganic results in mg/kg

For sample location headings, the following qualifiers are used :

+	Denotes blank samples.
*	Denotes duplicate samples.
^	Denotes that sample was not analyzed for the compounds listed.

For chemical results, the folling qualifiers are used :

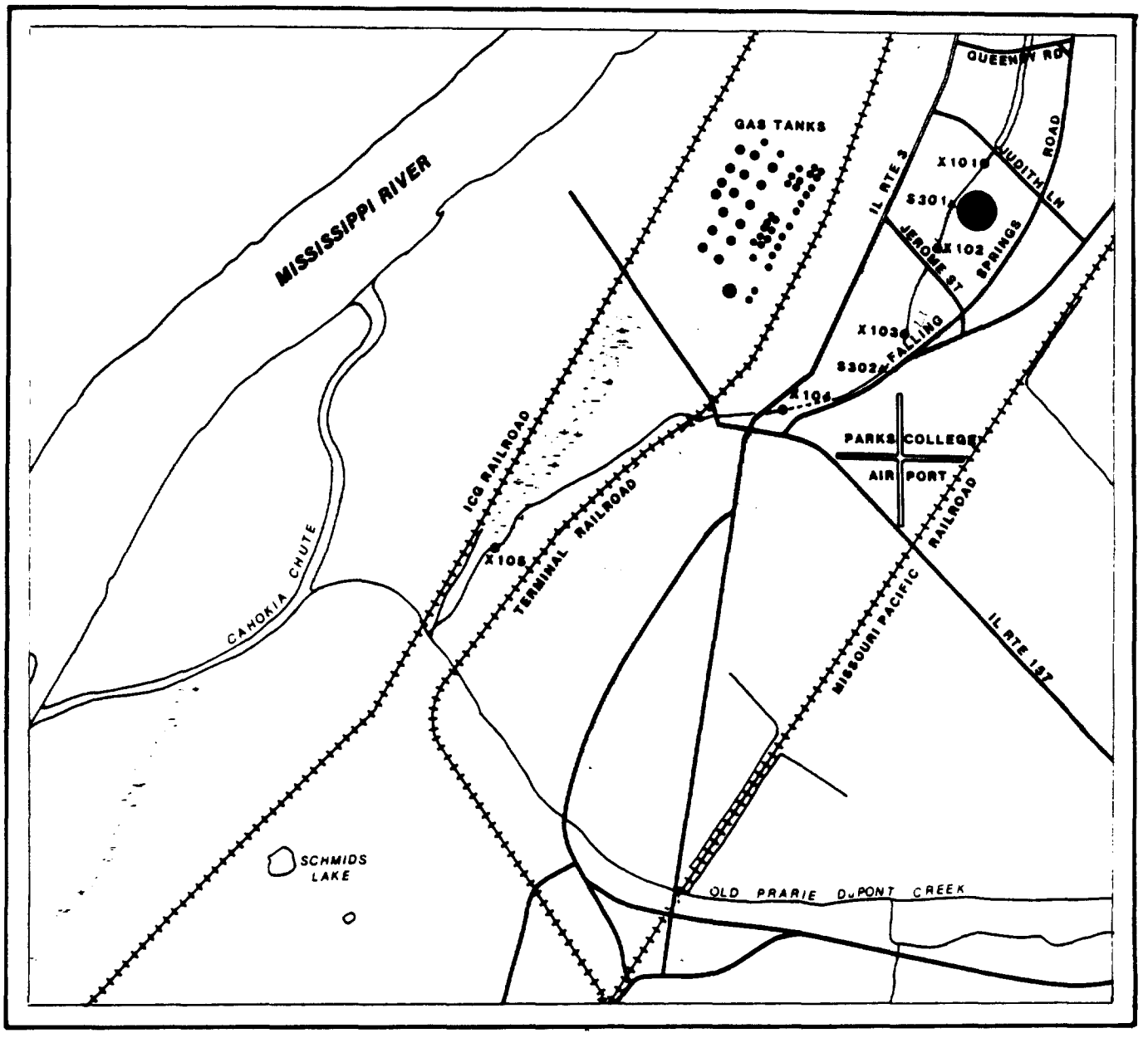
B	Compound detected in blank samples.
J	Estimated value . Result is less than the specified detection limit, but greater than zero.
E	Estimated value. Concentration detected exceeds the calibrated range.
C	Result confirmed by GC/MS.
*	Duplicate analysis not with in control limits.
R	Spike sample recovery not with in control limits.

DOCUMENT B

TABLE C-1: ANALYSIS OF SURFACE WATER AND SEDIMENT SAMPLES FROM CREEK SECTORS C THROUGH F (COLLECTED BY IEPA 9-25-80)

	SAMPLE LOCATIONS						
	Water		Sediment				
PARAMETERS	S301	S302	x101	x102	x103	x104	x105
Aluminum			12,000				
Arsenic	0.008	0.006	26				
Barium	0.12	0.08	1,300	4,700	210	390	475
Berylium	-	-	-	3	-	2	-
Boron	0.06	0.04	-	76	-	-	-
Cadmium	-	-	-	50	8	31	2
Calcium			24,000	5,300	210,000	16,000	13,000
Chromium	-	0.01	400	50	60	50	-
Cobalt			40	32	6	8	9
Copper	0.26	0.04	15,000	17,200	320	1,800	360
Iron	0.66	0.87	57,000	110,000	11,000	19,000	18,000
Lead	-	-	800	1,300	260	250	75
Magnesium	3	2	7,100	2,000	10,000	5,100	3,300
Manganese	0.03	0.12	600	170	210	160	200
Mercury			1.2				
Nickel	0.05	0.01	2,000	2,300	45	600	-
Phosphorus	0.19	0.2		6,200	720	1,200	4,200
Potassium	6.6	3.3	2,400	900	1,400	2,100	1,400
Silver	-	-	-	45	10	-	-
Sodium	3	3	800	1,100	100	190	125
Strontium	0.08	0.07	100	140	210	47	43
Vanadium	-	-	-	50	22	31	35
Zinc	0.24	-	12,000	21,000	900	5,600	780
PCB	-	-	0.12	0.12	2.8	2	-

NOTE: All results in ppm.
Blanks indicate parameter not analyzed.
- Indicates below detection limits.



LEGEND
X101 SEDIMENT SAMPLING LOCATION
S301 SURFACE WATER SAMPLING LOCATION
RESIDENTIAL AREA

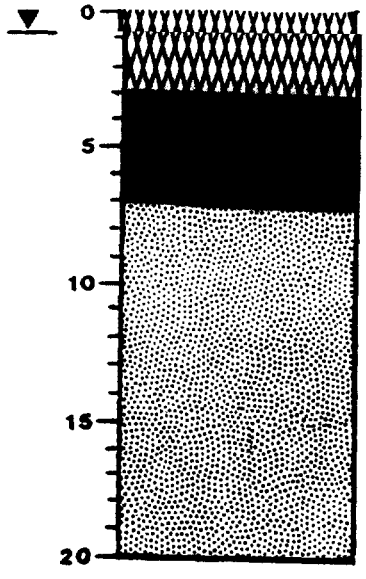
FIGURE C-1
IEPA SAMPLING LOCATIONS CREEK SECTORS C THROUGH F

DOCUMENT C

Project Name Dead Creek
Project No. IL 3140
Date Prepared 12-15-86
Prepared by Kevin Phillips

Depth (ft) Description

N - 1



Boring/Well No. N-1
Location Site N
Owner IEPA
Top of Inner Casing Elev. NA
Drilling Firm Fox drilling
Driller Jerry Hammon
Start & Completion Dates 12/15, 12/15/86
Type of Rig Mobile B-61

Method of Drilling 3 3/4" I.D. hollow stem augers

WELL DATA

Hole Diam. 8 in.
Boring Depth 20.0 ft.
Casing and Screen Diam. _____
Screen Interval _____
Screen Type _____
Stickup _____
Well Type _____
Well Construction:
- Filter Pack _____
- Seal _____
- Grout _____
- Lock No. _____

TEST DATA

Static Water Elev. _____ Date _____
Static Water Elev. _____ Date _____
Slug Test Yes ____ No ____
Test Date _____
Hydraulic Conductivity _____
Other _____

WATER QUALITY

Samples Taken Yes ____ No X
No. of Samples _____
Type of Samples _____

Date Sampled _____
Samplers _____
Samples Analyzed for _____

Split Samples Yes ____ No X
Recipient _____

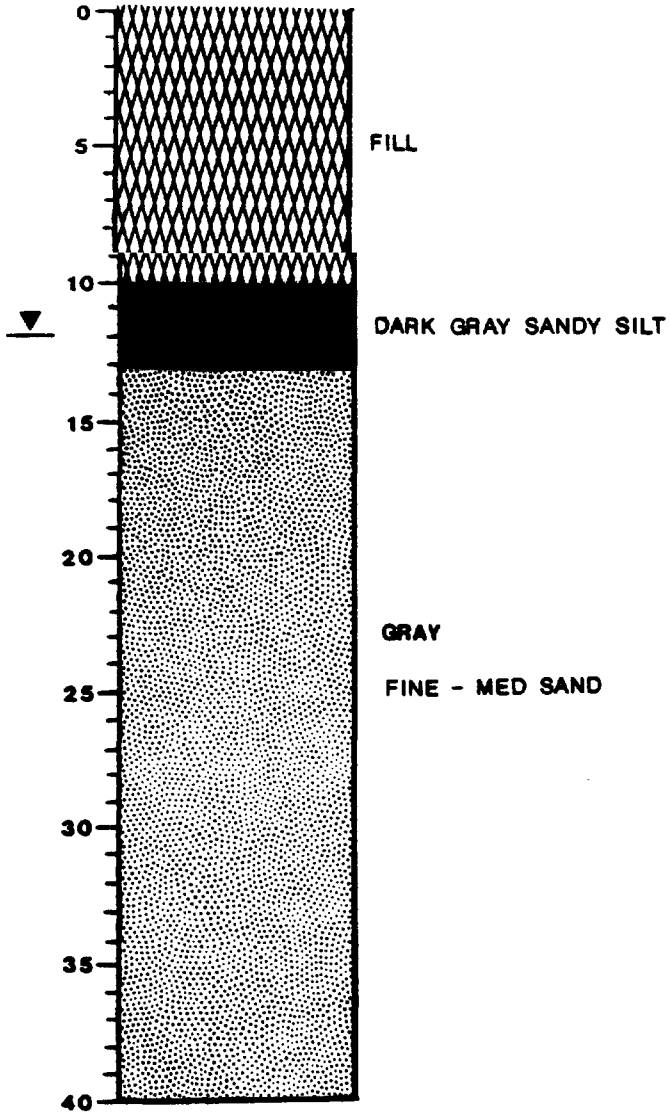
Comments Subsurface soil samples from boring 0 - 10' analyzed for HSL compounds.

REMARKS

Project Name Dead Creek
Project No. IL 3140
Date Prepared 12-15-86
Prepared by Kevin Phillips

Depth (ft) Description

N-2



Boring/Well No. N-2
Location Site N
Owner IEPA
Top of Inner Casing Elev. NA
Drilling Firm Fox drilling
Driller Jerry Hammon
Start & Completion Dates 12/15,12/15/86
Type of Rig Mobile B-61

Method of Drilling 3 3/4" I.D. hollow stem augers and rotary

WELL DATA

Hole Diam. 8 in.
Boring Depth 40.0 ft.
Casing and Screen Diam. _____
Screen Interval _____
Screen Type _____
Stickup _____
Well Type _____
Well Construction:
Filter Pack _____
Seal _____
Grout _____
Lock No. _____

TEST DATA

Static Water Elev. _____ Date _____
Static Water Elev. _____ Date _____
Slug Test Yes____ No____
Test Date _____
Hydraulic Conductivity _____
Other _____

WATER QUALITY

Samples Taken Yes____ No X
No. of Samples _____
Types of Samples _____

Date Sampled _____
Samplers _____
Samples Analyzed for _____

Split Samples Yes____ No X
Recipient _____

Comments Subsurface soil samples from boring 5 - 15' analyzed for HSL compounds.

REMARKS

Site Dead Creek Site-N

Boring/Well No. N-1

Sample Depth	Blow Count	Description
1 - 2.5	4-6-10	0-2.5 FILL consisting of crushed limestone, gravel, and fine to coarse grain sand. Wet. Fill discontinues @ 3'.
3.5 - 5	3-9-9	3.5-4 Stiff gray very sandy SILT. Some fine grain sand. Wet. 4-5 Brown silty fine grain SAND. Wet.
6 - 7.5	2-4-3	6-7 Loose gray very sandy SILT. Some fine grain sand. Black and reddish staining throughout. Wet. 7-7.5 Loose brownish gray fine to medium grain SAND. Some reddish staining. Wet.
8.5 - 10	2-4-7	Loose gray sandy SILT. Some fine grain sand. Trace of organic material (wood, etc.). Stained black. Wet.
11 - 12.5	1-2-5	Loose brown very silty fine grain SAND. Some silt. Black stained layer at 12' (-1")
13.5 - 15	1-3-3	Same as above.
16 - 17.5	2-5-7	Firm gray silty fine grain SAND. Trace of small to medium gravel. Wet.
18.5 - 20	2-3-7	Firm gray fine grain SAND. Wet. E.O.B. @ 20'

Site Dead Creek Site-N Boring/Well No. N-2

Sample Depth	Blow Count	Description
		0-1 Crushed limestone fill
1 - 2.5	9-10-12	1-2 Crushed lime fill 2-2.5 FILL consisting of loose dark gray very sandy SILT. Some fine grain sand. Trace of organic material (wood & roots).
3.5 - 5	N	No recovery - possible rubber tire
6 - 7.5	N	No recovery - possible concrete
8.5 - 10	47-6-2	FILL consisting of dark gray silty clay with concrete material and gravel. Fill discontinues @ approx. 10'.
11 - 12.5	6-10-9	Firm dark gray very sandy SILT. Some very fine grain sand. Trace of organic material (wood and roots). Black streaks. Wet.
13.5 - 15	3-4-4	Firm gray fine to medium grain SAND. Trace of small to medium gravel. Wet. Sand is rounded to sub angular and fairly well to poorly sorted.
16 - 17.5	7-11-12	Gray, fine to medium grain SAND. Trace of small gravel. Wet.
18.5 - 20	8-12-14	Dense brown fine to medium grain SAND. Well sorted. Wet.
21 - 22.5	9-13-15	Same as above.
23.5 - 25	9-11-15	Dense gray fine to medium SAND. Trace of coarse grain sand and small gravel. Wet.
26 - 27.5	8-12-13	Dense gray fine to coarse grain SAND. Trace of small gravel. Wet.
28.5 - 30	9-14-23	Same as above.
31 - 32.5	7-9-11	Dense gray very fine grain SAND. Wet.
33.5 - 35	6-8-10	Same as above. Darker gray.
36 - 37.5	12-17-23	Very dense. Gray fine to coarse grain SAND. Wet.
38.5 - 40	8-9-12	Same as above.
		E.O.B. @ 40'

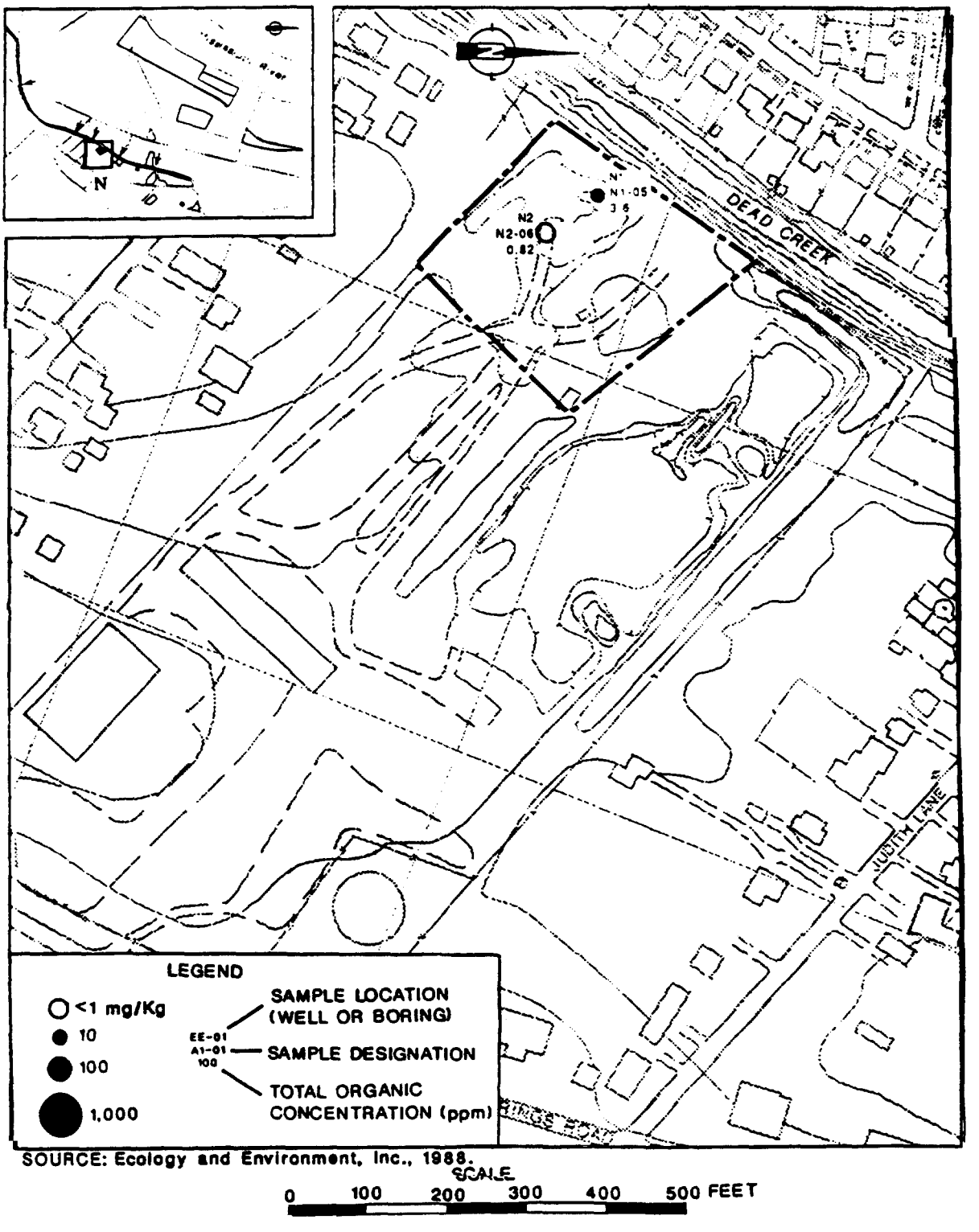


FIGURE 4-45 TOTAL ORGANIC CONCENTRATIONS IN SUBSURFACE SOILS AT SITE N

Hazard Ranking System

Preliminary Score
Projected Score

Confidential

Facility Name : H.H. Hall Construction

Location : 3525 Falling Springs Road, Cahokia, Illinois

EPA Region : Five

Person(s) In Charge of the Facility : Howard H. Hall

Name of Reviewer : John W. Morgan Date : 11-22-88

General Description of the Facility :
(For example, landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating, agency action, etc.)

H.H.Hall Construction site is an operations and equipment storage facility owned and operated by H.H. Hall Construction Company of East St. Louis. The entire facility covers approximately 23 acres and contains an abandoned disposal pit. Results from an investigation conducted by E&E indicate contamination in two subsurface soil boring. Based on these finding, a preliminary assessment and Pre/Projected HRS Score was conducted under the Pre-Remedial CERCLA Program.

HRS Scores : Sm = 25.74 (Sgw = 43.25 Ssw = 10.63 Sa =0.00)

Pro Scores : Sm = 25.74 (Sgw = 43.25 Ssw = 10.63 Sa =0.00)

Figure 1
HRS Cover Sheet

File Name : A:\HALLCON

HRS Ground Water Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	45	45	3.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					
Depth to Aquifer of Concern	0 1 2 3	2	0	6	3.2
Net Precipitation	0 1 2 3	1	0	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	0	3	
Physical State	0 1 2 3	1	0	3	
Total Route Characteristics score			0	15	
[3] Containment	0 1 2 3	1	0	3	3.3
[4] Waste Characteristics					3.4
Toxicicty/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics score			19	26	
[5] Targets					3.5
Ground Water Use	0 1 2 3	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	20	40	
Total Targets score			29	49	
[6] If line [1] is 45, multiply [1] X [4] X [5] If line [1] is 0, multiply [2] X [3] X [4] X [5]			2.5E	57,330	
[7] Divide line [6] by 57,330 and multiply by 100		S	= 43.25		

File Name : A:\HALLCON

HRS Surface Water Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	45	45	4.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3	4.2
1-yr. 24 hr. Rainfall	0 1 2 3	1	0	3	
Distance to Nearest Surface Water	0 1 2 3	2	0	6	
Physical State	0 1 2 3	1	0	3	
Total Route Characteristics score			0	15	
[3] Containment	0 1 2 3	1	0	3	4.3
[4] Waste Characteristics					4.4
Toxicicty/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics score			19	26	
[5] Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to Sensitive Environment	0 1 2 3	2	2	6	
Distance to Water	12 16 18 20		0		
Intake Downstream	24 30 32 35 40				
Total Targets score			8	55	
[6] If line [1] is 45, multiply [1] X [4] X [5] If line [1] is 0, multiply [2] X [3] X [4] X [5]			6.8E	64,350	
[7] Divide line [6] by 64,350 and multiply by 100			S = 10.63		

File Name : A:\HALLCON

HRS Air Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	0	45	5.1
Date and Location: Sampling Protocol:					
If line [1] is 0, the S a = 0, Enter on line [5] If line [1] is 45, then proceed to line [2]					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Route Characteristics score				20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
Total Targets Score				39	
[4] Multiply [1] X [2] X [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S a =			0

File Name : A:\HALLCON

PRO Ground Water Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	45	45	3.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					
Depth to Aquifer of Concern	0 1 2 3	2	0*	6	3.2
Net Precipitation	0 1 2 3	1	0*	3	
Permeability of the Unsaturated Zone	0 1 2 3	1	0*	3	
Physical State	0 1 2 3	1	0*	3	
Total Route Characteristics score			0	15	
[3] Containment	0 1 2 3	1	0*	3	3.3
[4] Waste Characteristics					3.4
Toxicicty/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics score			19	26	
[5] Targets					3.5
Ground Water Use	0 1 2 3	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	20	40	
Total Targets score			29	49	
[6] If line [1] is 45, multiply [1] X [4] X [5] If line [1] is 0, multiply [2] X [3] X [4] X [5]			2.5E	57,330	
[7] Divide line [6] by 57,330 and multiply by 100 S = 43.25					

A '*' represents a data gap between the Pre and the Pro

File Name : A:\HALLCON

PRO Surface Water Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	45	45	4.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					
Facility Slope and Intervening Terrain	0 1 2 3	1	0*	3	4.2
1-yr. 24 hr. Rainfall	0 1 2 3	1	0*	3	
Distance to Nearest Surface Water	0 1 2 3	2	0*	6	
Physical State	0 1 2 3	1	0*	3	
Total Route Characteristics score			0	15	
[3] Containment	0 1 2 3	1	0*	3	4.3
[4] Waste Characteristics					4.4
Toxicicty/Persistence	0 3 6 9 12 15 18	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics score			19	26	
[5] Targets					4.5
Surface Water Use	0 1 2 3	3	6	9	
Distance to Sensitive Environment	0 1 2 3	2	2	6	
Distance to Water Intake Downstream	12 16 18 20 24 30 32 35 40		0		
Total Targets score			8	55	
[6] If line [1] is 45, multiply [1] X [4] X [5] If line [1] is 0, multiply [2] X [3] X [4] X [5]			6.8E	64,350	
[7] Divide line [6] by 64,350 and multiply by 100			S = 10.63		

A '*' represents a data gap between the Pre and the Pro

File Name : A:\HALLCON

PRO Air Route Work Sheet

Rating Factor	Assigned Value	Multiplier	Score	Max. Score	Ref. Section
[1] Observed Release	0 45	1	0	45	5.1
Date and Location: Sampling Protocol:					
If line [1] is 0, the S a = 0, Enter on line [5] If line [1] is 45, then proceed to line [2]					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Route Characteristics score				20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
Total Targets Score				39	
[4] Multiply [1] X [2] X [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S a =			0

A '*' represents a data gap